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REMARKS/ARGUMENTS

Claims 1-5, 11, and 13-15 are pending in this application.

Claims 1-5, 11 and 13-15 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement. Particularly, the Examiner alleged that "the specification provides support for only four layers, e.g. a metal oxide layer formed over the gold layer, the platinum layer, and the first titanium layer (page 4, lines 16-18 and 21-22). Please note that the second titanium layer is oxidized to form the metal oxide layer (page 4, lines 21-22). Therefore, the specification does not provide support for the claimed structure." Applicant respectfully disagrees.

In contrast to the Examiner's allegations, page 4, lines 21-22 does NOT disclose that the entire second (or top) platinum layer is oxidized to form the metal oxide layer, but rather discloses that "the entire top surface of the top titanium layer is oxidized in an oxygen atmosphere at 300°C to form the metal oxide layer of titanium oxide" (emphasis added). In other words, only the top surface of the top titanium layer is oxidized to form the metal oxide layer, and the remainder of the top titanium layer remains. Thus, contrary to the Examiner's allegation, the originally filed specification, does NOT disclose only four layers, but rather, clearly discloses five layers including a first titanium layer, a platinum layer, a gold layer, and a second titanium layer and a metal oxide layer. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 1-5 and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Apel (U.S. 5,208,726) in view of Lee et al. (U.S. 6,509,601). Applicant respectfully traverses the rejection of claims 1-5 and 11.

Claim 1 recites:

"An MIM capacitor comprising:
a lower electrode comprising a plurality of metal layers including a top metal layer;
an upper electrode; and
a dielectric layer positioned between said lower electrode and said

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upper electrode,
 wherein the top metal layer includes an insulating metal oxide layer disposed on the entire surface thereof; and
 wherein the lower electrode is formed by a first titanium layer, a platinum layer, a gold layer, and a second titanium layer.” (emphasis added)

The Examiner acknowledged that Apel fails to teach or suggest an insulating metal oxide layer comprising titanium disposed on the entire surface of the lower electrode. However, the Examiner alleged that Lee et al. teaches an oxidized titanium layer. Thus, the Examiner concluded that it would have been obvious to include an oxidized titanium layer as allegedly taught by Lee et al. over the plurality of metal layers of Apel.

The Examiner acknowledged that neither Apel nor Lee et al. teaches or suggests a lower electrode which includes five layers including a first titanium layer, a platinum layer, a gold layer, a second titanium layer and a metal oxide layer disposed on the entire surface of the second titanium layer. In view of the fact that the originally filed specification clearly provides support for a lower electrode including these five layers, Applicant respectfully submits that the Examiner must give patentable weight to each and every layer recited in Applicant's claim 1.

Since, as acknowledged by the Examiner, neither Apel nor Lee et al. teaches or suggest the features of “wherein the top metal layer includes an insulating metal oxide layer disposed on the entire surface thereof” and “wherein the lower electrode is formed by a first titanium layer, a platinum layer, a gold layer, and a second titanium layer,” Applicant respectfully submits that the combination of Apel and Lee et al. clearly fail to teach or suggest the unique combination and arrangement of elements recited in Applicant's claim 1.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Apel in view of Lee et al.

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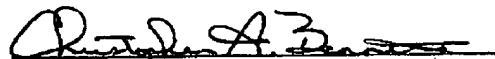
In view of the foregoing amendments and remarks, Applicant respectfully submits that claim 1 is allowable. Claims 2-5, 11 and 13-15 depend upon claim 1 and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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